Electronic TUBES

# 12FQ8

## TWIN DOUBLE-PLATE TRIODE

## DESCRIPTION AND RATING

The 12FQ8 is a miniature twin double-plate triode with each section having a grid and two plates brought out to separate base pins.

### GENERAL

**ELECTRICAL**

Cathode—Coated Unipotential

| | | |
|---|---|---|
| Heater Voltage, AC or DC | 12.6 | Volts |
| Heater Current | 0.15 | Amperes |
| Direct Interelectrode Capacitances* | | |
| Input, Each Section | 1.7 | μμf |
| Output | | |
| Plate A (Section 1) | 0.34 | μμf |
| Plate B (Section 1) | 0.24 | μμf |
| Plate A (Section 2) | 0.30 | μμf |
| Plate B (Section 2) | 0.18 | μμf |
| Grid to Plate | | |
| Section 1—Grid to Plate A | 0.9 | μμf |
| Grid to Plate B | 0.9 | μμf |
| Section 2—Grid to Plate A | 0.9 | μμf |
| Grid to Plate B | 0.9 | μμf |
| Plate to Plate, Each Section | 1.2 | μμf |
| Plate A (Section 1) to Plate A (Section 2) | 0.4 | μμf |

**MECHANICAL**

Mounting Position—Any

Envelope—T-6½, Glass

### MAXIMUM RATINGS

**DESIGN-MAXIMUM VALUES, EACH SECTION**

| | | |
|---|---|---|
| Allowable Heater Voltage | 11.3 to 13.9 | Volts |
| Plate Voltage | 330 | Volts |
| Positive DC Grid Voltage | 0 | Volts |
| Plate Dissipation, Each Plate | 0.5 | Watts |
| Heater-Cathode Voltage | | |
| Heater Positive with Respect to Cathode | | |
| DC Component | 100 | Volts |
| Total DC and Peak | 200 | Volts |
| Heater Negative with Respect to Cathode | | |
| Total DC and Peak | 200 | Volts |

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

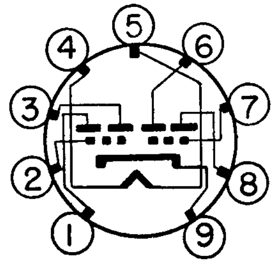
The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.



GENERAL ELECTRIC

*Supersedes ET-T1528, dated 5-59*

### BASING DIAGRAM

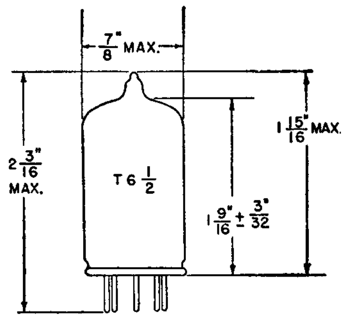



EIA 9KT

### TERMINAL CONNECTIONS

Pin 1—Plate B (Section 2)
Pin 2—Grid (Section 2)
Pin 3—Plate A (Section 2)
Pin 4—Heater
Pin 5—Heater
Pin 6—Plate B (Section 1)
Pin 7—Grid (Section 1)
Pin 8—Plate A (Section 1)
Pin 9—Cathode

### PHYSICAL DIMENSIONS




EIA 6-2

# CHARACTERISTICS AND TYPICAL OPERATION

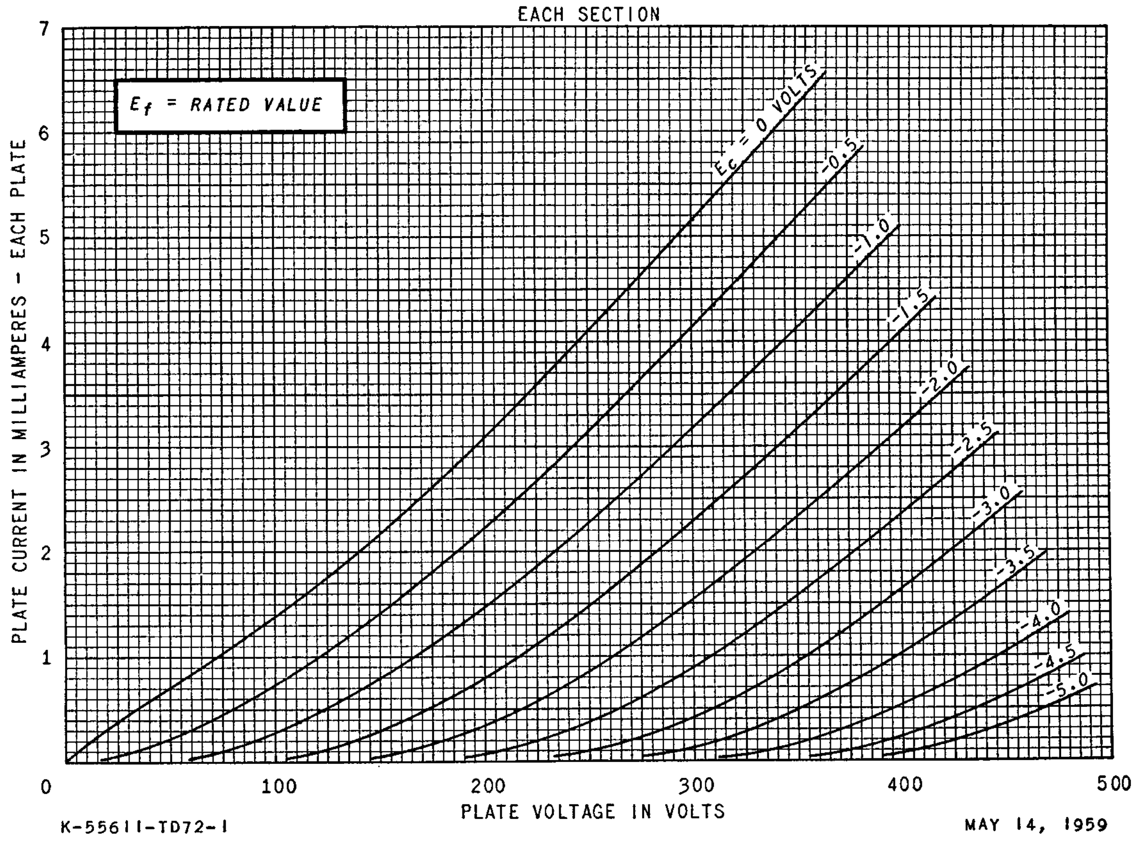
## AVERAGE CHARACTERISTICS, EACH SECTION

| | | |
|---|---|---|
| Plate Voltage | 250 | Volts |
| Grid Voltage | −1.5 | Volts |
| Amplification Factor, Grid to Each Plate† | 95 | |
| Plate Resistance, approximate, Each Plate† | 76000 | Ohms |
| Transconductance, Grid to Each Plate† | 1250 | Micromhos |
| Plate Current, Each Plate† | 1.5 | Milliamperes |

* Without external shield.

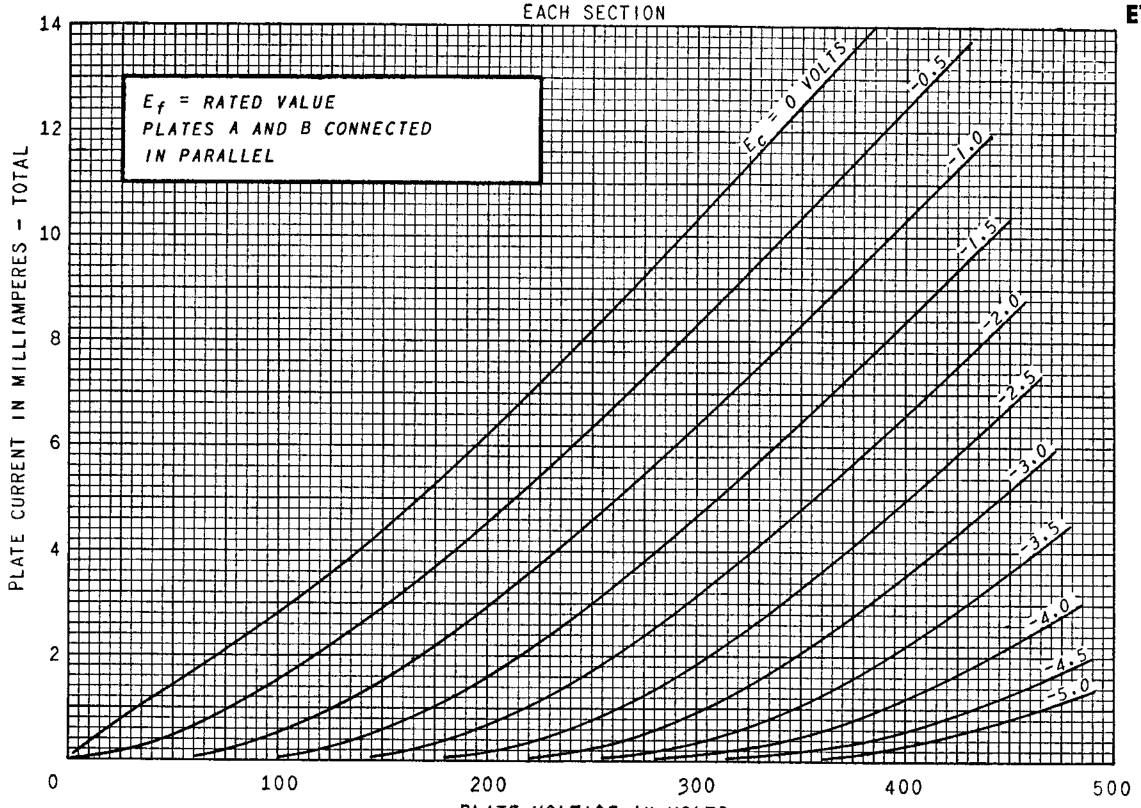
† Other plate of same section grounded.

## AVERAGE PLATE CHARACTERISTICS



## AVERAGE PLATE CHARACTERISTICS

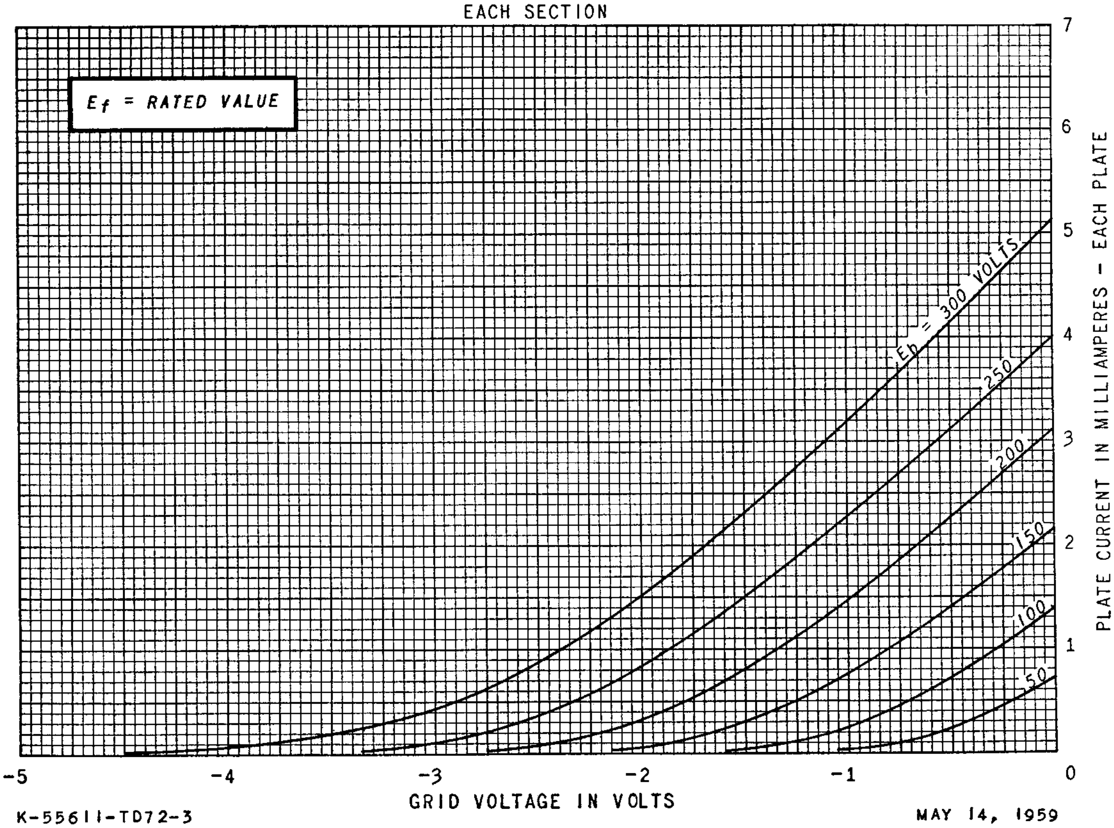
EACH SECTION




K-55611-TD72-2A APRIL 20, 1960

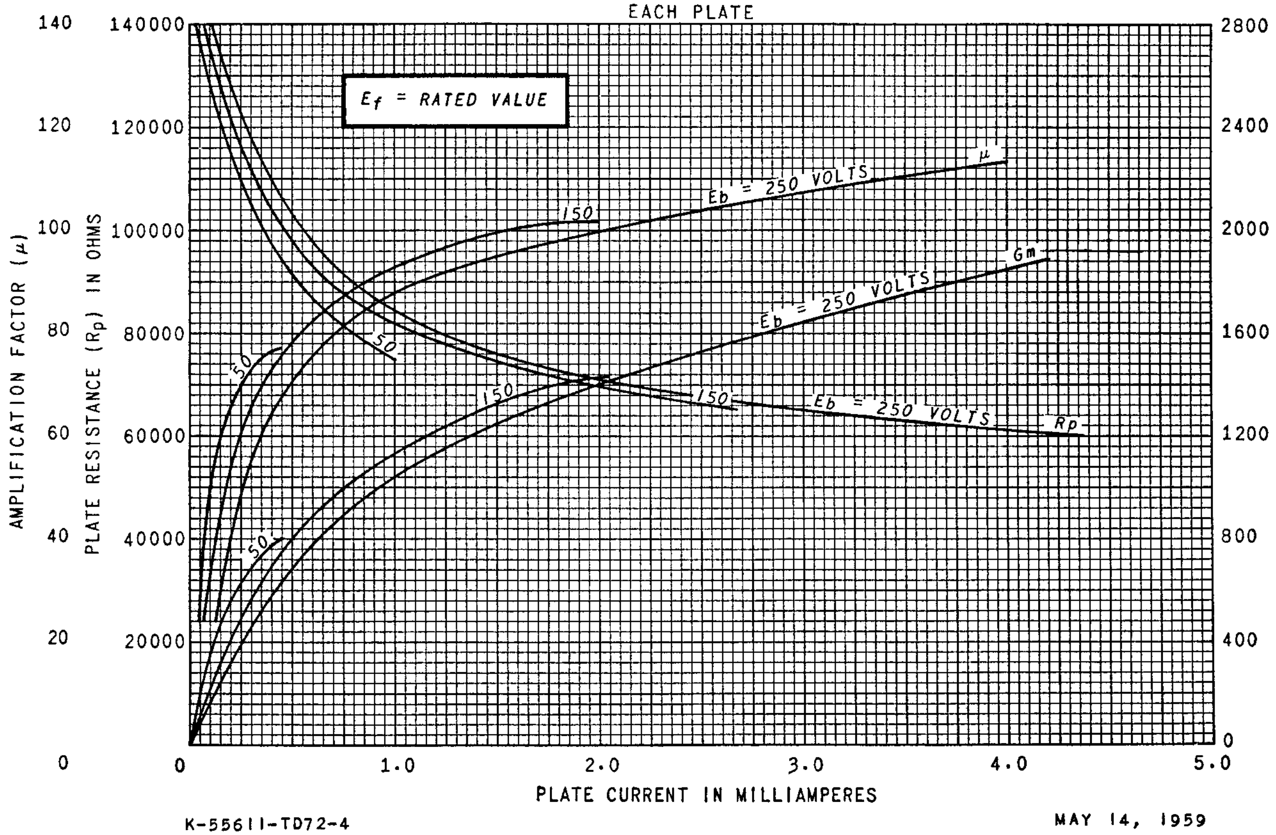
## AVERAGE TRANSFER CHARACTERISTICS

EACH SECTION




K-55611-TD72-3 MAY 14, 1959

## AVERAGE CHARACTERISTICS




**ELECTRONIC COMPONENTS DIVISION**

**GENERAL ELECTRIC**

**Schenectady 5, N. Y.**